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## ROUTING AND RECORD SHEET

SUBJECT: (Optional)

S&amp;T Training Program

DD/A Registry

85-1321

1026 C of C

EXTENSION

NO.

DATE 12 April 1985

TO: (Officer designation, room number, and building)

DATE

OFFICER'S INITIALS

COMMENTS (Number each comment to show from whom to whom. Draw a line across column after each comment.)

1. D/OTE

4/12, B.

TO: 3

2. DDA  
7D24 Hqs.

4/15/85 7

Picking up on your reference to our doing more training in the S&T world, attached is a memo we prepared for the S&T on a training program for the Directorate. (The program was developed after a systematic needs survey of the S&T.) It was briefed to Evan and his office chiefs who enthusiastically supported it. The program is now being implemented. I think its a fair beginning, and we will soon undertake similar efforts for the DO and the DA. Be interested in your thoughts on the S&T package.

3. ExDir W3  
7D55 Hqs.

19 apr 85

4. ER - ~~return~~ destroy

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DCI  
EXEC  
REG

DD/A Registry

85-1331

OTE 84-6760

29 NOV 84

MEMORANDUM FOR: Deputy Director for Science and Technology

VIA: Deputy Director for Administration

FROM:   
Director of Training and EducationSUBJECT: Proposed Training Program for Directorate of Science  
and Technology (U)REFERENCE: Memo for DDS&T, from D/OTE, dtd 30 Oct 84,  
(OTE 84-6759), Subj: Presentation of Training  
Recommendations Based on DS&T Needs Assessment (U)

1. This memorandum presents an Office of Training and Education (OTE) training program proposed for the Directorate of Science and Technology (DS&T) for FY-1985 and FY-1986. This new program results from an intensive review of the DS&T conducted jointly by your training staff and OTE. The review included a needs assessment survey of DS&T professional officers and follow-up interviews with key individuals in each of your offices. The results of the needs assessment and the interviews are provided in Attachment A (1 - 7). (U)

2. Although a comprehensive DS&T training program will take several years to evolve, OTE has identified several new initiatives--some of which have already been tasked by the DS&T--for immediate development. Our proposals for FY-1985 and FY-1986 are listed below with a breakdown of course content provided in Attachment B. (U)

FY-1985- Orientation to the DS&T for Career Trainees

Designed for all incoming Career Trainees, this course, which will form an integral part of the Career Trainee Development Course beginning in February 1985, provides the new professional employee with an overview and understanding of the mission and functions of the DS&T. (U)

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SUBJECT: Proposed Training for DS&amp;T (U)

- DS&T Career Trainee Course

Scheduled for its initial running 1 - 26 July 1985, this course is designed primarily for DS&T-bound Career Trainees (12-15 per class). This program relies heavily on practical exercises to provide a variety of DS&T skills to help the Career Trainee become productive immediately upon assignment to his office. (U)

- Contract Process Course

This course is designed to provide the DS&T professional with the skills and information needed to effectively manage contract programs involving both the military and private sector. The course combines discussion of the theoretical and legal aspects of the contract process with practical case studies. The course covers the entire contract process from the determination of requirements to actual delivery, including negotiations and other people-related topics. (U)

- Briefing Technical Material

This course provides the DS&T professional involved in technical programs with a basic understanding of briefing techniques with particular emphasis on handling technical material in the DS&T environment. The course extensively uses videotaped exercises with critiques to sharpen the officers' briefing skills. (U)

- Technical Writing Course

This course is designed to provide DS&T professionals with a thorough grounding in basic writing principles with particular emphasis on technical formats and documents of the DS&T. Practical exercises give the student the opportunity to demonstrate his capability and receive constructive criticism. (U)

- Orientation to Foreign Travel

This course is designed to provide DS&T personnel who frequently travel TDY abroad or who are assigned PCS with the information they need to prepare both themselves and their families. Content includes discussions on travel processing and procedures, what to do in emergencies, [redacted] how to conduct yourself in a foreign culture, and how to protect yourself in an unfriendly environment. (U)

- S&T Seminars

These seminars include scientific and technical lectures, workshops, and tutorials on subjects of interest to the DS&T.

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SUBJECT: Proposed Training for DS&T (U)

25X1 For example, a Science and Technology Forecasting Seminar currently being developed for the National Intelligence Officer for Science and Technology, Dr. Julian Nall, is a candidate for this series. Programs currently conducted by DS&T-directed contractors, such as [ ] fall into this category. (U)

- Program Management and Budget Course

Designed for the middle and senior level manager, the course provides both information and management skills to effectively manage a project. Content includes discussions of the contract process, budget preparation and justification procedures. Security and legal aspects of program management as well as people-related skills, such as negotiations, conflict resolution, and how to conduct meetings are also included. (U)

FY-1986

- S&T Analysis Seminar

This course is designed for experienced officers and analysts who have spent a minimum of three years as intelligence analysts or in equivalent positions or who have been involved in research projects. The focus of the course is on the process rather than the content of analysis. Participants will be expected to share their knowledge, analytic techniques, and experience as the basis for group discussion. This shared background will provide relevant examples for applying various methods and testing techniques to improve the quality of DS&T analysis. (U)

- Principles of Economics

This course represents a series of functionally-oriented courses and is designed to provide any DS&T officer involved in economic intelligence with basic knowledge of general economic principles, terminology, and an understanding of the major economic issues confronting the U.S. Other courses which have a similar functional orientation may follow in FY-1987. (U)

- Mid-East Survey

25X1 This is a general orientation course for DS&T officers [ ]  
25X1 [ ] involved with regional affairs analysis at Headquarters who have little background or formal study in the region or need a refresher. Topics covered will include history, geography, religion, traditions, cultural norms and mores, and an overview of the political and military situation. (U)

SUBJECT: Proposed Training for DS&T (U)

- Africa Survey

This course focuses on Africa and has the same basic design as the one above. (U)

- Managing the New DS&T Employee

This course is designed to provide the first-line supervisor or manager with knowledge and skills which enhance their ability to make the new employee a productive, confident, and satisfied addition to the DS&T. Videotaped role plays, counseling sessions, and other interactive methods will provide the opportunity for the students to practice skills before using them on the job. (U)

- Executive Development for the DS&T

The course provides a forum where DS&T executives (SIS-level) can explore a variety of strategic issues including interAgency-military-industry relationships, strategic planning, the requirements process, the art of "getting things done," and other issues confronting the DS&T and the Agency. (U)

3. In addition to available OTE resources, we will need support from the DS&T. Estimates in terms of personnel and dollars for FY-1985 and FY-1986 are described below. These resources are required to conduct the courses presented in this proposal. As other courses evolve, we will require additional resources. (U)

FY-1985

- For FY-1985, five DS&T rotational instructors or annuitants and two OTE instructors are needed. The minimum grade levels for these seven positions are five GS-13/14s, one GS-12, and one GS-11. In addition, an estimated five consultants will be needed to help design, develop, and prepare various courses, tutorials, lectures, and workshops on such topics as the contract process, program management and budget, technical briefing, technical writing, and specific technical seminars such as those conducted by [redacted]. Further selected DS&T substantive experts and guest speakers will be called upon to participate in the review and conduct of courses. (U)

[redacted]

SUBJECT: Proposed Training for DS&T (U)

FY-1986

- For FY-1986, an additional three DS&T rotational instructors or annuitants, one additional OTE instructor, and one additional OTE training assistant will be needed. The minimum grade levels for these five positions are three GS-13/14s, one GS-12, and one GS-6. As many as four consultants may be required to both continue the work begun in FY-1985 and develop new courses or seminars as needed. In addition, the continued participation of selected DS&T experts and guest speakers will be required. (U)



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4. We will brief you on the overall program, the individual courses and content, and the proposed implementation schedule on 6 December 1984 as scheduled. (U)

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Attachments

DISTRIBUTION:

- Orig - Addressee
- 1 - EDA (w/att)
- 1 - D/OTE (w/o att)
- 1 - C/IT (w/att)
- 2 - OTE/IT/TIB (w/o att)
- 1 - OTE Registry (w/o att)

25X1

OTE/IT/TI  (23 November 1984)

**ATTACHMENT A: RESULTS OF DS&T TRAINING NEEDS ASSESSMENT**

1. This attachment presents the results of the DS&T needs assessment conducted jointly by the DS&T and OTE from April to October 1984. The needs assessment included both a survey and follow-on interviews with representatives from each office.

A. The objective of the survey was to determine what skills and knowledge are considered critical to professional employees at three career stages -- 1 to 3 years (EOD), 4 to 7 years (Mid-Career), and more than 7 years (Senior Level). The survey questions focused on DS&T professional positions, excluding supervisory and administrative positions. The follow-up interviews provided OTE with information on management skills requirements. Each DS&T office submitted specific information on the duties and responsibilities of their professional employees and OTE organized this information into a structured questionnaire of 188 itemized responses. Selected DS&T professionals validated the results of the survey questionnaire and distributed it to professionals from a cross-section of offices and positions in the DS&T. The questionnaire was distributed proportionately to approximately 10 percent of the management population and 20 percent of the professional employees. Survey participants made judgements on the usefulness of each topic using a 1 to 5 scale (1 = not useful, 5 = very useful).

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DS&T training staffs and ad hoc advisory groups from each office reviewed the results to insure there were no significant omissions and that the data generally reflected the needs of that office. The preliminary assessment of the survey results is presented in Attachment A-1.

B. The objective of the follow-on interviews with representatives from each office was to further define the topics and to identify specific training shortfalls. Some additional topics not addressed in the survey did surface during the interviews and are listed in Attachment A-2. Several interviewers expressed the need for a series of science and technology tutorials for the layperson. Some of the topics suggested include: "the scientific method: --what is it"; discussions of the terminology, jargon and kinds of equipment used in key technical areas such as computers, artificial intelligence, and communications; the basics of radio propagation; the basics of microwave and satellite communications; emerging technologies; and technical data bases especially foreign languages available from commercial, industrial and professional society sources.

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2. Analysis of the survey responses provides a clear understanding of various processes, responsibilities and needs for training within the DS&T.

\* DS&T Process Model. The DS&T, unlike other Agency directorates, incorporates within its operation all phases of the intelligence process (cycle). The DS&T is involved in the definition of specific collection requirements and capabilities--the first step in the intelligence cycle through the actual collection and processing of "raw intelligence" information, to the analysis and reporting of intelligence to the Community. This process, illustrated in Attachment A-3, provides OTE with the model necessary for construction and sequencing of training programs and course content.

\* Clear Definition of Training Responsibilities. A clear division of training responsibilities between OTE and the various DS&T components emerged. Over 60 specific subjects and topics were identified in engineering, mathematics, physics, chemistry, and technology which are generally considered to be outside OTE's in-house training capability (Attachment A-4). A further 28 topics were found to be so office unique that the responsibility for training should probably be left to the various DS&T components (Attachment A-5). The remaining 100 subjects and topics were clearly candidates for OTE training courses (Attachment A-6).

\* Most Useful Topics Identified for EOD, Mid and Senior Career Levels. The specific topics or subjects found to be most useful for individuals in each of the three career levels are listed in priority order in (Attachment A-7). These lists provide a good starting point for identifying what subjects might be included in courses designed for audiences at these career levels. This is especially true at the EOD level, where it can be assumed that the new employee has little if any knowledge of the subject. As length of service increases, it becomes more likely that the knowledge may have already been gained in a variety of ways; (on-the-job experience, etc.). Therefore, at the mid and senior levels, more care must be taken in using the lists as "course catalogues." The follow-up interviews provided clarity on some of the training needs for these higher levels.

\* Generic Training Needs Identified. In addition to training requirements by career level, the training needs of the typical DS&T officer were identified. The survey revealed training needs for professionals in each of the six offices, and for those positions where more than 10 survey participants identified themselves by specific position; Imagery Analyst, Foreign Documents Officer, SIGINT Officer, Electronic Engineer, Physical Scientist, and Technical Operations Officer. These results have been provided separately to DS&T training officers and are available from OTE upon request.



## ATTACHMENT #A-1

## PRELIMINARY ASSESSMENT: DS&amp;T NEEDS SURVEY

The questionnaire results can be summarized by analyzing them in terms of 14 major areas:

- 25X1
1. Orientation and Familiarization. All participants agreed that knowledge of missions and functions of the Agency and other members of the Intelligence Community was valuable. [REDACTED]
  2. Intelligence Collection Requirements. DS&T-wide, mid and senior level personnel require an understanding of the entire requirements process from submitting and evaluating requirements to managing the effort and knowing the major organizations involved.
  3. Project Planning, Management, and Budget. These skills were considered very useful at the mid and senior levels across the Directorate. However, in ORD and OD&E the results suggest that new personnel also require skills and knowledge in a range of topics in this area.
  4. Computer Related Topics. There is a Directorate-wide need for skills in word processing. While new personnel generally require little understanding of other computer-related topics, mid-and senior-level personnel have selected needs to understand computer data bases, systems, and models. Except for mid-and senior-level personnel in NPIC, there is no need to understand Community computer systems [REDACTED] OD&E however does need to understand Community systems from a design interface and capability standpoint. 25X1
  5. Contract Planning and Management. Skills in this area, from writing of proposals to overall management of the contracting process, were judged to be valuable for mid-and senior-level professionals DS&T-wide. In ORD and OD&E however, it was found that new personnel require a more comprehensive understanding of this topic, similar to that of mid-and senior-level personnel. 25X1

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6. Security, Regulations, Ethics and the Law. There is a consistent need throughout the Directorate for an understanding of security-related subjects such as classification and code word procedures and telephone security (both recognized as particularly critical), releasability procedures, and personal responsibilities. The results also suggested that mid and senior level personnel need some understanding of contract and copyright laws.
7. Personal, Interpersonal, and Group Skills. New employees throughout the DS&T generally require individual skills such as typing, listening, time management, research and data base maintenance. They also need a understanding of career planning and other factors of personal career growth. Most of the new professionals in the Directorate need to know how to work effectively in groups although OSO, ORD, and OTS responses suggest a low need for new professionals having group or meeting skills. Mid-and senior-level employees require a comprehensive understanding of personal and interpersonal processes, how to negotiate substantive issues, and how to work with other agencies.

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9. Area and Country Studies. FBIS requires substantive knowledge at all career levels, while most other offices expressed a greater need for mid-and senior-level rather than new personnel to understand a broad range of subjects ranging from historical perspectives, to current developments and including geographic, economic, cultural, political and other subjects.
10. Foreign Languages. NPIC, OD&E, and ORD personnel generally expressed low needs for foreign language skills, OTS and OSO noted needs for selected personnel to both read and speak appropriate languages. As expected, FBIS expressed great need for high reading and speaking skills.

11. Intelligence Collection and Analysis. Mid-and senior-level personnel throughout the Directorate, except for OD&E require an understanding of the analytic process from research of open source and classified data bases to using logic and other formal approaches to structured analysis. OD&E interpreted this topic as oriented toward operations and maintenance than toward an understanding of analytic processes. New personnel in FBIS, ORD and NPIC also expressed a need to understand the analytic process.
12. Writing. All DS&T personnel need to be able to proofread and edit. Most need to understand Agency writing styles and formats, although OD&E responses suggest low interest in this subject.
13. Briefing. Throughout the Directorate, there is a particularly high requirement to understand the principles and techniques of briefing to include the use of graphics and the presentation of technical material. The only noticeable exception to this general pattern are lower knowledge levels required by new personnel in FBIS and OSO.
14. Training. Except for OD&E, which expressed low interest in this subject, throughout the DS&T, mid-and senior-level personnel require an understanding of instructional design principles and techniques.

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ATTACHMENT #A-4  
ATTACHMENT #A-5  
ATTACHMENT #A-6

## TRAINING NEEDS SURVEY INSTRUMENT AND RESULTS

These attachments include a complete copy of the itemized response questionnaire with the average of DS&T responses for each question. The scale used was from 1 (not useful) to 5 (very useful). For most questions, an average of 3.00 and above represents, in our judgment, that the particular subject has DS&T- wide relevance.

Part I (Attachment A-4) addresses those topics considered to be outside OTE's in-house training capability.

Part II (Attachment A-5) includes these topics found to be so office unique that the responsibility for training should probably be left to the various DS&T components.

Part III (Attachment A-6) includes those subjects which are clearly candidates for OTE training courses.

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# DS&T TRAINING NEEDS ASSESSMENT

## PART I

This section includes a composite list of the knowledge, skills, and abilities submitted by all six DS&T Offices that one must possess prior to entry on duty (ECD) and assignment to a particular task. One does not need to know all of them, just those that pertain to his/her assignment. The numbers which appear to the right of this list, in the columns beneath the three career levels, represent the average value (usefulness) assigned to that skill, ability, or area of knowledge by the participants indicated below. OTE suggests that mastery of these subjects and topics is an a priori requirement for ECD with the DS&T. An exception to this are those engineering and technical seminars and programs for which OTE has agreed to provide coordination and logistical support.

OFFICE: DS&T POSITION TITLE: \_\_\_\_\_ DATE: \_\_\_\_\_

ATTACHMENT #4

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DS&T TRAINING NEEDS ASSESSMENT

PART II

This section includes a composite list of the knowledge, skills, and abilities submitted by all six DS&T Offices that are unique to a particular DS&T specialty or office. One does not need to know all of them, just those that pertain to his/her assignment. The numbers which appear to the right of this list, in the columns beneath the three career levels, represent the average value (usefulness) assigned to that skill, ability, or area of knowledge by the participants indicated below. OTE suggests that these topics are so office unique that the responsibility for training should be left to the various DS&T component. An exception to this are those programs for which OTE has agreed to provide coordination and logistical support.

OFFICE: DS&T POSITION TITLE: \_\_\_\_\_ DATE: \_\_\_\_\_

ATTACHMENT # 5

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**DS&T TRAINING NEEDS ASSESSMENT**

**PART III**

This section includes a composite list of the knowledge, skills, and abilities submitted by all six DS&T Offices that are appropriate for OTE training programs. One does not need to know all of the topics on the list, just those that pertain to his/her assignment. The numbers which appear to the right of this list, in the columns beneath the three career levels, represent the average value (usefulness) assigned to that skill, ability, or area of knowledge by the participants indicated below. OTE will, based on these values review its current training program and make adjustments where necessary and implement new training programs where appropriate. OTE will also provide coordination and logistical support for those engineering and technical seminars and programs (Parts I and II) agreed to through coordination with the DS&T.

OFFICE: DS&T POSITION TITLE: \_\_\_\_\_ DATE: \_\_\_\_\_

ATTACHMENT #6

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ATTACHMENT #A-7

PRIORITY LIST OF DIRECTORATE-WIDE RESPONSES

This attachment includes priority ordered lists -- based on directorate-wide average responses, -- for each of the three career levels.

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**ATTACHMENT B: BREAKDOWN OF FY-85 COURSE CONTENT**

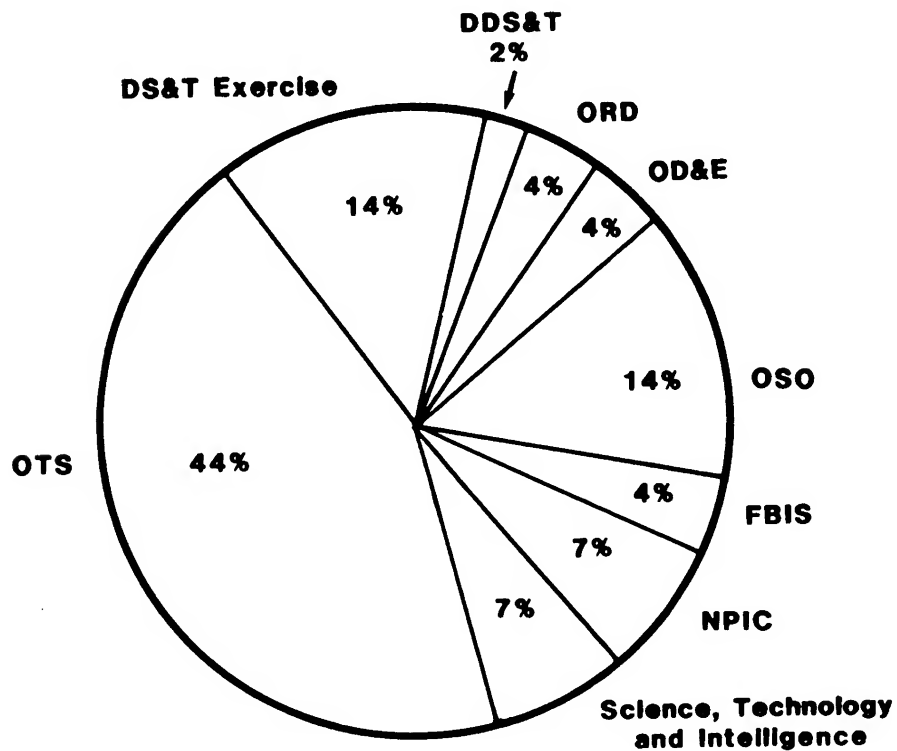
This attachment presents charts for each of the courses proposed for FY-85 showing a breakdown by percentage of the specific course content.

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## **Orientation to the Directorate of Science and Technology for Career Trainees (ODS&T) (8 Days)**



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